# (19) World Intellectual Property Organization International Bureau





#### (43) International Publication Date 8 July 2004 (08.07.2004)

### PCT

## (10) International Publication Number WO 2004/057186 A1

(51) International Patent Classification<sup>7</sup>: 39/02

F04B 35/04,

(21) International Application Number:

PCT/KR2003/001373

(22) International Filing Date:

10 July 2003 (10.07.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 10-2002-0081900

20 December 2002 (20.12.2002) KR

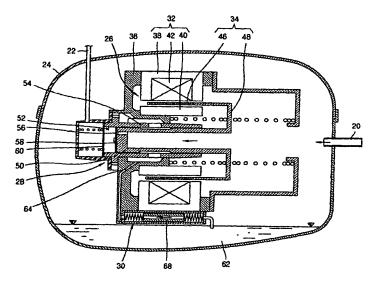
- (71) Applicant (for all designated States except US): LG ELECTRONICS INC. [KR/KR]; 20, Yoido-Dong, Youngdungpo-Gu, Seoul 150-010 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KWON, Gi-Bong [KR/KR]; Daedong Apt. 608-1301, Seokbongmaeul, Sammoon-Li, Jangyu-Myeon, Gimhae, Gyungsangnam-Do 621-831 (KR). JUNG, Won-Hyun [KR/KR]; Seongwon 1st Apt. 106-404, Namyang-Dong, Changwon, Gyungsangnam-Do 641-751 (KR). LEE, Su-Won

[KR/KR]; Seongwon 1st Apt. 113-1302, Namyang-Dong, Changwon, Gyungsangnam-Do 641-751 (KR). LEE, Dong-Won [KR/KR]; Daedong Apt. 107-1204, Sangnam-Dong, Changwon, Gyungsangnam-Do 641-777 (KR).

- (74) Agent: PARK, Jang-Won; Jewoo Bldg. 5th Floor, 200, Nonhyun-Dong, Gangnam-Gu, Seoul 135-010 (KR).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

### (54) Title: REFRIGERATING SYSTEM HAVING RECIPROCATING COMRPESSOR



(57) Abstract: A refrigerating system includes: an evaporator (2) for performing a cooling operation as a refrigerant is evaporated; a compressor (4) for compressing the refrigerant discharged from the evaporator as a mover is reciprocally moved; a condenser (86) for changing the refrigerant compressed in the reciprocating compressor to a liquid refrigerant; and a capillary tube (8) for decompressing the refrigerant discharged from the condenser and transferring it to the evaporator. Hydrocarbon consisting of carbon and hydrogen, a sort of natural refrigerant, is used as the refrigerant, and a paraffin-based lubricant, a sort of a mineral oil, is used as the lubricant, so that a lubricating performance and a performance of the refrigerating system can be improved.

) 2004/057186 A1